

Contents

Part I Nonlinear Dynamical Systems

Chaos in a Parametrically Excited Pendulum with Damping Force	3
Chunqing Lu	
Energy and Nonlinear Dynamics of Hybrid Systems	29
Katica R. (Stevanović) Hedrih	
Characteristics Diagnosis of Nonlinear Dynamical Systems	85
Liming Dai and Lu Han	
Synchronization of Two Coupled Phase Oscillators	105
Yongqing Wu, Changpin Li, Weigang Sun, and Yujiang Wu	
Chaotic Synchronization of Duffing Oscillator and Pendulum	115
Albert C.J. Luo and Fuhong Min	
The Ring Problem of $(N + 1)$ Bodies: An Overview	135
Tilemahos J. Kalvouridis	

Part II Mathematical Methods

Symbolic Computation of Conservation Laws, Generalized Symmetries, and Recursion Operators for Nonlinear Differential–Difference Equations*	153
Ünal Gökteş and Willy Hereman	
Approximate Polynomial Solution of a Nonlinear Differential Equation with Applications	169
Constantin Bota, Bogdan Căruntu, and Liviu Bereteu	
Dynamical Symmetries of Second Order ODE	179
M.I. Timoshin	

Invex Energies on Riemannian Manifolds	191
Constantin Udriște and Andreea Bejenaru	
Weyl's Limit Point and Limit Circle for a Dynamic Systems	215
Adil Huseynov	
Remarks on Suzuki (C)-Condition	227
Erdal Karapinar	
On the Eigenvalues of a Non-Hermitian Hamiltonian	245
Ebru Ergun	
 Part III Nonlinear Physics	
Perturbation Methods for Solitons and Their Behavior as Particles	257
L.A. Ostrovsky	
Complex Holomorphic Flows	269
Constantin Udriște and Romeo Bercia	
Unsteady MHD Flow Past a Stretching Sheet Due to a Heat Source/Sink	291
A.K. Banerjee, A. Vanav Kumar, and V. Kumaran	
Effect of Chemical Kinetics on Permeability of a Porous Rock Scaling by Concentration of Active Fluid	301
Tapati Dutta, Supti Sadhukhan, and Sujata Tarafdar	
Exciton–Phonon Dynamics with Long-Range Interaction	311
Nick Laskin	
Time Evolution of the Spectral Data Associated with the Finite Complex Toda Lattice	323
Aydin Huseynov and Gusein Sh. Guseinov	
Efficient Dynamic Modeling of a Hexa-Type Parallel Manipulator	335
António M. Lopes	

Dynamical Systems and Methods

Luo, A.C.J.; Machado, J.A.T.; Baleanu, D. (Eds.)

2012, XI, 348 p., Hardcover

ISBN: 978-1-4614-0453-8